

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) An information recording medium, comprising:

a substrate;

a first dielectric protective film over the substrate;

an interface film over the first protective film;

at least one recording film over the interface film, the recording film undergoing change in atomic arrangement upon irradiation with recording beams; and

a second dielectric protective film over and in contact with the recording film, wherein

the second protective film contains a sulfide and the nitrogen content in the second protective film is not more than 25 at.%, the recording film contains Ge-Sb-Te based material and 0.1-10 at.% of at least one element selected from the group consisting of Si, P, V, Mn, Fe, Co, Ni, Cu, Zn, Nb, Mo, Ru, Rh, Pd, Ag, Cd, Sn, Ta, Os, Ir, Pt, Au, Tl, Pb, Bi and Cr, the element bonds to sulfur to produce sulfide or produces a barrier layer inhibiting diffusion of sulfur,

nitrogen contents on both sides of an interface at which the recording film and the second protective film contact with each other is such that the nitrogen content of the protective film side

is greater than that of the recording film side and the changing amount of the nitrogen content in the direction of thickness of the film with the interface between the films as a boundary is 1-50 at.%/nm wherein jitter after overwriting does not exceed 15%, and the recording film is not in contact with the first protective film.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) ~~An~~ The information recording medium according to claim 1, wherein the recording film contains 0.1-10 at.% of Ag.

6. (Currently Amended) ~~An~~ The information recording medium according to claim 5, wherein the recording film contains Ge-Sb-Te based material.

7. (Previously Presented) The information recording medium according to claim 1, wherein the second protective film contains zinc sulfide.

8. (Previously Presented) The information recording medium according to claim 1, wherein the second protective film contains a mixture of zinc sulfide and silicon dioxide.

9. (Cancelled)

10. (Previously Presented) The information recording medium according to claim 1, wherein the protective films comprise ZnS-SiO₂.

11. (Previously Presented) The information recording medium according to claim 1, wherein the protective films comprise (ZnS)₈₀(SiO₂)₂₀.

12. (Previously Presented) The information recording medium according to claim 1, wherein the recording film comprises Ag-Ge-Sb-Te-N.

13. (Previously Presented) The information recording medium according to claim 1, wherein the recording film comprises $\text{Ag}_{2.5}\text{Ge}_{20}\text{Sb}_{22.5}\text{Te}_{55}$.

14. (Previously Presented) The information recording medium according to claim 1, which further comprises:

a first reflective layer over the second protective film; and
a second reflective layer over the first reflective layer.

15. (Previously Presented) The information recording medium according to claim 14, wherein the first reflective layer comprises $\text{Al}_{94}\text{Cr}_6$.

16. (Previously Presented) The information recording medium according to claim 14, wherein the second reflective layer comprises $\text{Al}_{99}\text{Ti}_1$.

17. (Previously Presented) The information recording medium according to claim 1, wherein the first protective film is thicker than the second protective film.

18. (Previously Presented) The information recording medium according to claim 1, wherein the first protective film has a thickness of 90 nm.

19. (Previously Presented) The information recording medium according to claim 1, wherein the second protective film has a thickness of 15-18 nm.

20. (Previously Presented) The information recording medium according to claim 1, wherein the recording film has a thickness of 14-16 nm.

21. (New) The information recording medium according to claim 1, wherein if data is written on the medium, and the medium is stored for 500 hours in an environment of 80 °C and 90% RH, and the medium is directly overwritten with a random signal, then the jitter does not increase.

22. (New) The information recording medium according to claim 21, wherein the jitter does not exceed 8.5.

23. (New) The information recording medium according to claim 21, wherein the jitter is the same as before the introduction into the environment.